

IN THE CLAIMS

Please amend the claims to read as follows:

Listing of Claims

1. (Canceled)

2. (Original) A mobile wireless terminal apparatus in a mobile wireless communication system which has a public network, a private network and a public wireless LAN system and comprises a virtual private network relay apparatus which establishes an IPsec tunnel with a network relay apparatus installed on the private network via the public network, further establishes the IPsec tunnel with the mobile wireless terminal apparatus and relays connection of the mobile wireless terminal apparatus from the public wireless LAN system to the private network, a connection authentication server that is installed on the public wireless LAN system and authenticates connection of the mobile wireless terminal apparatus to the public wireless LAN system, and a wireless LAN access point that relays connection authentication procedures of a public wireless LAN performed between the mobile wireless terminal apparatus and the connection authentication server, comprising:

an authentication processing section that performs authentication processing of connection to the public wireless LAN system to the connection authentication server;

an address acquiring section that acquires an IP address of the virtual private network relay apparatus from the connection authentication server when the connection to the public wireless LAN system is permitted;

an address notifying section that notifies an IP address of the mobile wireless terminal apparatus to the connection authentication server; and

an IPsec key exchanging section that performs an IPsec key exchange with the virtual private network relay apparatus using the IP address of the virtual private network relay apparatus.

3. (Original) A mobile wireless terminal apparatus in a mobile wireless communication system which has a public network, a private network and a public wireless LAN system and comprises a virtual private network relay apparatus which establishes an IPsec tunnel with a network relay apparatus installed on the private network via the public network, further establishes the IPsec tunnel with the mobile wireless terminal apparatus and relays connection of the mobile wireless terminal apparatus from the public wireless LAN system to the private network, a

connection authentication server that is installed on the public wireless LAN system and that authenticates connection of the mobile wireless terminal apparatus to the public wireless LAN system, and a wireless LAN access point that relays connection authentication procedures of a public wireless LAN performed between the mobile wireless terminal apparatus and the connection authentication server, comprising:

an authentication processing section that performs authentication processing of connection to the public wireless LAN system to the connection authentication server;

an IPsec shared key acquiring section that acquires an IPsec pre-shared secret key for use in the IPsec key exchange performed with the virtual private network relay apparatus from the connection authentication server when the connection to the public wireless LAN system is permitted; and

an IPsec key exchanging section that performs the IPsec key exchange with the virtual private network relay apparatus using the IPsec pre-shared secret key.

4. (Original) A mobile wireless terminal apparatus in a mobile wireless communication system which has a public network, a private network and a public wireless LAN system and comprises a virtual private network relay apparatus which establishes an

IPsec tunnel with a network relay apparatus installed on the private network via the public network, further establishes the IPsec tunnel with the mobile wireless terminal apparatus and relays connection of the mobile wireless terminal apparatus from the public wireless LAN system to the private network, a home agent that controls moving of the mobile wireless terminal apparatus, a connection authentication server that is installed on the public wireless LAN system and authenticates connection of the mobile wireless terminal apparatus to the public wireless LAN system, and a wireless LAN access point that relays connection authentication procedures of a public wireless LAN performed between the mobile wireless terminal apparatus and the connection authentication server, comprising:

- an authentication processing section that performs authentication processing of connection to the public wireless LAN system to the connection authentication server;

- an MIP shared key acquiring section that acquires a pre-shared secret key for use in mobile IP registration made with the home agent from the connection authentication server when the connection to the public wireless LAN system is permitted; and

- an MIP registering section that makes the mobile IP registration to the home agent using the pre-shared secret key.

5. (Original) A mobile wireless terminal apparatus in a mobile wireless communication system which has a public network, a private network and a public wireless LAN system and comprises a virtual private network relay apparatus which establishes an IPsec tunnel with a network relay apparatus installed on the private network via the public network, further establishes the IPsec tunnel with the mobile wireless terminal apparatus and relays connection of the mobile wireless terminal apparatus from the public wireless LAN system to the private network, a home agent that controls moving of the mobile wireless terminal apparatus, a connection authentication server that is installed on the public wireless LAN system and authenticates connection of the mobile wireless terminal apparatus to the public wireless LAN system, and a wireless LAN access point that relays connection authentication procedures of a public wireless LAN performed between the mobile wireless terminal apparatus and the connection authentication server, comprising:

an authentication processing section that performs authentication processing of connection to the public wireless LAN system to the connection authentication server;

an address acquiring section that acquires an IP address of the virtual private network relay apparatus from the connection

authentication server when the connection to the public wireless LAN system is permitted;

an address notifying section that notifies an IP address of the mobile wireless terminal apparatus to the connection authentication server;

an IPsec shared key acquiring section that acquires an IPsec pre-shared secret key for use in the IPsec key exchange performed with the virtual private network relay apparatus from the connection authentication server;

an MIP shared key acquiring section that acquires an MIP pre-shared secret key for use in mobile IP registration made with the home agent from the connection authentication server;

an IPsec key exchanging section that performs exchange of the IPsec key with the virtual private network relay apparatus using the IPsec pre-shared secret key; and

an MIP registering section that makes the mobile IP registration to the home agent using the MIP pre-shared secret key.

6. (Canceled)

7. (Canceled)

8. (Canceled)

9. (Canceled)

10. (Canceled)

11. (Canceled)

12. (Canceled)

13. (Canceled)

14. (Canceled)